The Importance of Wildlife to Canadians

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Demand for Wildlife to 2001

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Summary

A survey carried out by Statistics Canada under the sponsorship of the Federal-Provincial Wildlife Conference showed that 90 percent of Canadians aged 15 or older took part in recreational wildlife-related activities in 1981. Significant personal levels of commitment toward a number of activities were reflected in high expenditures of time and money. Participants spent $4.2 billion on these activities, resulting in substantial contributions to the gross business production across the country.

Most of the participants (70 percent of adult Canadians) engaged in several types of wildlife-related activity during the year. For example, virtually every Canadian who hunted also engaged in non-consumptive wildlife-related activities (observing, feeding, photographing or studying wildlife). These hunters (9.5 percent of Canadians) accounted for 45 percent of the money spent on all wildlife-related activities. The fact that this core group spent nearly as much money on non-consumptive activities as on hunting gives wildlife management agencies a strong incentive to expand their programs beyond traditional concerns with hunting.

A dedicated core group of Canadians (17 percent) participated in four or five activities and were responsible for 66 percent of the $4.2 billion and 40 percent of the 996.2 million days expended for the enjoyment wildlife provides. Conservationists need to encourage participation in a diversity of activities and to increase their understanding of the needs of similar core groups.

There is a significant untapped market for wildlife-related activities. Because of their enjoyment of wildlife, participants expressed a willingness to spend nearly $1 billion in excess of their actual expenditures. Interest in hunting was nearly twice as high as current participation. Untapped demand for hunting was highest in Prince Edward Island, British Columbia, Ontario, Alberta and Quebec. Interest expressed in joining or contributing to wildlife organizations exceeded actual participation by more than 600 percent, a difference of 6.9 million people. The difference between declared interest and actual participation was especially high in Eastern Canada. Wildlife conservation agencies, government and non-government, could broaden their bases of support and sources of revenue by orienting strategies toward these untapped markets.

A 25 percent increase in Canada's population between 1981 and 2001 is expected to increase the total number of participants in every wildlife-related activity. The number of hunters could increase by 17 percent, non-consumptive users by 25 percent and supporters of wildlife organizations by 27 percent. Growth in demand will likely impose new requirements on existing wildlife management programs, while providing an even broader base of support for conservation strategies.

By 2001 Canada's population will have aged appreciably, changing the face of wildlife participation. Because hunting has tended to draw participants from younger age groups, it is expected to attract a lower proportion of the total population than at present. Given the high levels of interest expressed in hunting, it is feasible that management efforts to translate this interest into participation may offset this proportional decrease. Non-consumptive activities are likely to retain the commitment of those who now take part in them as well as attracting a growing proportion of the total population because of their compatibility with the lifestyle of an older population.

High levels of commitment to various wildlife-related activities among Canadians, their expressed willingness to spend more on these activities, the significant, untapped market and growth in demand to the year 2001 present significant challenges and opportunities for environmental conservation.

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Introduction

One of the central themes in two 1986 reports, the *State of the Environment Report for Canada* and *Human Activity and the Environment*, is that "the environment is the foundation on which we base all economic and social activity — in fact, it is the base of life itself."[1] "We depend on the resources of [the] environment for our continued well-being."[2] This theme was earlier the cornerstone of the World Conservation Strategy,[3] which aimed at the sustainable utilization of living resources. It also underlies a key observation by the United Nations' Brundtland Commission on Environment and Development[4] that expressing resource management issues in socioeconomic terms will gain them more "political clout" and establish them as priorities on political agendas. This notion inspired the creation of a major national task force in Canada that tabled a number of recommendations to enhance the vital linkages between the environment and the economy and to ensure that the utilization of resources today does not damage prospects for their use by future generations.[5]

Significant social and economic advantages can be perpetuated by management practices that optimize continued public use of wildlife resources. However, the challenges are complex. Managers must identify, understand and monitor a multitude of emerging socioeconomic issues. Some of the pressing issues include the various wildlife-related activities of Canadians, the multiple benefits that result from this participation, the changing characteristics of the numerous publics who take part in them and pay for them, future shifts in the nature and extent of public demand for wildlife and the potential impacts of this demand on management, policies and programs. The pages that follow shed some light on these and other related questions.

The 1981 National Survey

Statistics Canada carried out a survey sponsored by federal, provincial and territorial government wildlife agencies and a number of non-government groups to determine the value of Canadian wildlife resources. In the survey, approximately 100 000 Canadians, aged 15 years or more, from all regions and occupations were questioned on their support for wildlife conservation, their participation in a number of wildlife-related activities and their related expenditures in 1981.

Wildlife-related activities emerged as one of the most prevalent forms of recreation undertaken by Canadians. The survey showed that most Canadians (90 percent of those aged 15 and older) were involved in some form of wildlife-related activity. These 16.7 million participants spent $4.2 billion on their activities and expressed a willingness to spend nearly $1 billion more. The economic impacts of their expenditures are estimated at $8.8 billion in gross business production, 185 000 jobs and $1.9 billion in government revenue from taxes. Strong attitudinal support for maintaining abundant wildlife and for preserving endangered species was expressed by more than 80 percent of Canadians. The survey has important implications for those involved in conserving wildlife and their habitats, developing resource policies, planning programs and evaluating current wildlife programs and services.

[1] Bird, P.M.; Rapport, D.J. 1986. State of the environment report for Canada. Statistics Canada and Environment Canada, Ottawa. Page viii.

[2] Statistics Canada. 1986. Human activity and the environment: A statistical compendium. Ottawa. Page 1.

[3] International Union for the Conservation of Nature and Natural Resources. 1980. World conservation strategy. Gland, Switzerland.

[4] United Nations World Commission on Environment and Development (Brundtland Commission). 1987. Our common future. Oxford, England. Pages 161-162.

[5] Canadian Council of Resource and Environment Ministers. 1987. Report of the National Task Force on Environment and Economy. Toronto.

To date the survey has produced four publications under the generic title of *The importance of wildlife to Canadians: Highlights of the 1981 national survey*,[6] *A user's guide to the methodology of the 1981 national survey*,[7] *An executive overview of the recreational economic significance of wildlife*,[8] and *The recreational economic significance of wildlife*.[9] Details of the objectives of the survey, definitions of terms, questionnaire and sample design and the statistical reliability of the results are documented in the *User's guide*. The reports offer insights on the multiple benefits of healthy and abundant wildlife populations, which are required for sustainable utilization. They also provide resource managers with strategic arguments to strengthen initiatives in environmental conservation.

This report is the fifth publication on the 1981 national survey results.

Sponsors of the survey have agreed to monitor periodically the socioeconomic benefits from the wildlife populations and habitats they manage. Consequently, survey information is being updated for 1987 by Statistics Canada under sponsorship arrangements similar to the earlier work. Reports resembling those for the 1981 results will be prepared from the 1987 survey data, with analyses of comparative results.

Scope of this Report

Some of the most difficult issues facing wildlife managers today pertain to habitat degradation and declining wildlife populations — issues that deal primarily with the *supply* of wildlife. Previous reports from the 1981 national survey demonstrated the societal benefits at risk if the vital needs of wildlife and habitat are not met. This report focuses on the emerging *demand* for wildlife-related benefits — an essential ingredient in formulating conservation policies and wildlife management programs for tomorrow's needs.

Earlier reports in this series segmented wildlife users into traditional categories such as consumptive (hunting) and non-consumptive (observing, feeding, photographing or studying wildlife) activities. The present report describes a new segmentation of Canadians that crosses these boundaries and reveals a core of participants highly committed to wildlife and its benefits who each engages in several types of wildlife-related activity. It complements previous reports by examining national and provincial patterns in potential demand for wildlife and by forecasting how growth and aging of the Canadian population is likely to influence levels of participation by the year 2001. Conservationists who understand the nature and extent of the public demand that a healthy environment sustains can show how great are the social benefits at risk when environmental resources are threatened.

These analyses are followed by an exploration of implications for management of this new segmentation of constituencies benefiting from wildlife, patterns of potential demand for wildlife-related activities based on expressed interest and projected shifts in demand for these activities by the year 2001.

In a few instances the statistical results presented here differ slightly from those published earlier. This is due to the use of a more elaborate method of dealing with missing values in the survey.

[6]Filion, F.L., James, S.W., Ducharme, J.L., Pepper, W., Reid, R., Boxall, P., Teillet, D. 1983. The importance of wildlife to Canadians: Highlights of the 1981 national survey. Canadian Wildlife Service, Ottawa, Canada.

[7]Filion, F.L., Weisz, G., Collins, B. 1985. The importance of wildlife to Canadians: A user's guide to the methodology of the 1981 national survey. Canadian Wildlife Service, Ottawa, Canada.

[8]Filion, F.L., Jacquemot, A., Reid, R. 1985. The importance of wildlife to Canadians: An executive overview of the recreational economic significance of wildlife. Canadian Wildlife Service, Ottawa, Canada.

[9]Jacquemot, A., Reid, R., Filion, F.L. 1986. The importance of wildlife to Canadians: The recreational economic significance of wildlife. Canadian Wildlife Service, Ottawa, Canada.

Emerging Management Issues in the Demand for Wildlife

Sound management practices depend on reliable information on public demand for wildlife. Establishing the nature and extent of this demand in a given year is not always easy. Even more difficult is predicting what the demand may be 5 or 10 years from now and assessing the implications for management of trends or shifts in demand.

Our understanding of demand for wildlife-related recreational activities can be improved by taking into account important differences between groups or segments of wildlife users. Wildlife participants include consumptive participants, such as hunters, and non-consumptive participants. The latter category includes those who take primary non-consumptive trips, especially to photograph or study wildlife, those who enjoy incidental wildlife encounters during trips or outings taken for another purpose, those who take part in residential wildlife activities such as feeding and observing wildlife around their home and those who take part in indirect wildlife activities such as reading and watching films on wildlife or purchasing related arts and crafts.

A drawback of this segmentation is that decisionmakers may incorrectly conclude that Canadians who take part in one of these activities do not participate in any others; in reality they do. To circumvent this difficulty, national survey results were recast to permit examination of multiple-activity participation.

Specifically, this approach both confirms that hunting is an important activity in Canada and dispels the myth that hunting and non-consumptive wildlife-related activities attract separate and distinct publics. More than 1.8 million Canadians hunt and spend at least $1 billion a year doing so. However, nearly all of them also engage in non-consumptive, wildlife-related activities on which they spend a similar amount.

This and other findings on demand for wildlife discussed below present new challenges and opportunities in wildlife conservation. Environmental decisionmakers will find useful the discussion in this report on which types of wildlife-related activity are of greatest interest to Canadians now and how projected demographic trends are likely to transform current demand for these activities by the year 2001. The 1987 national survey will provide more insight into trends in demand for wildlife-related activities.

The 10 principal observations that follow have critical implications for future wildlife conservation and management strategies.

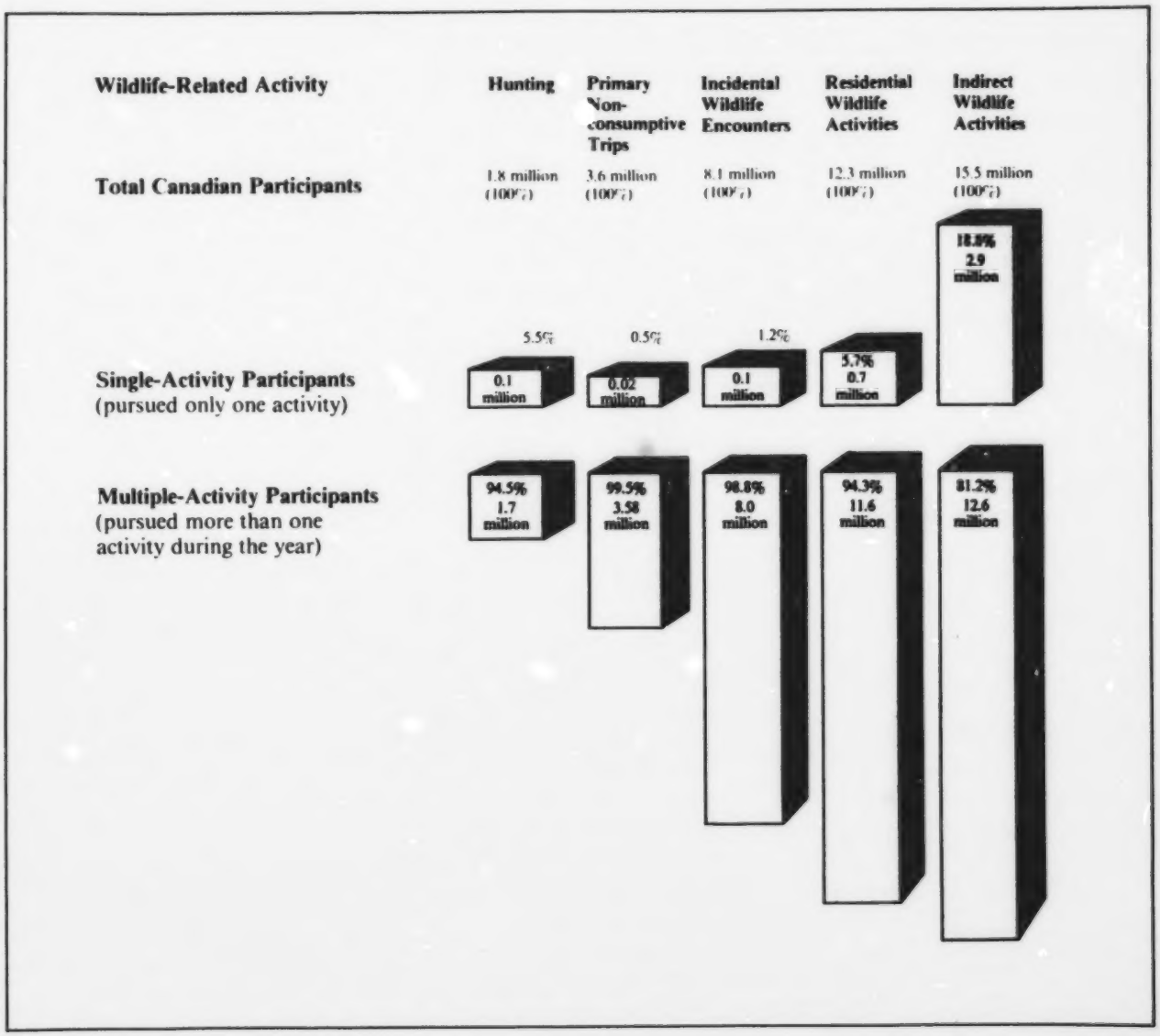
Observation one:

Multiple-activity participation is a predominant characteristic of recreational wildlife use in Canada; whereas 90 percent of the adult population of Canada takes part in at least one wildlife-related activity, 70 percent takes part in two or more (Figures 1 and 2).

The 1981 national survey collected information on five major types of wildlife-related activities — indirect wildlife-related activities, residential wildlife activities, primary non-consumptive trips, incidental wildlife encounters and hunting. Figure 1 shows the number of participants in each of these five types. It also shows, for each type, the proportion of people whose participation was restricted to only that type of activity and the proportion that engaged in several types of activities. For example, only 5.5 percent of the 1.8 million Canadians who hunted restricted their wildlife-related activities exclusively to hunting.

The highest level of single-activity participation occurred for indirect wildlife-related activities that do not normally entail an actual encounter with live animals. In all remaining activities where live animals are encountered, and which may also involve considerable planning or costs to pursue, exceptionally high levels of multiple-activity participation were found.

Figure 1
Participation in major types of wildlife-related activity segmented according to percentage of participants who are single-activity participants and multiple-activity participants, Canada 1981.

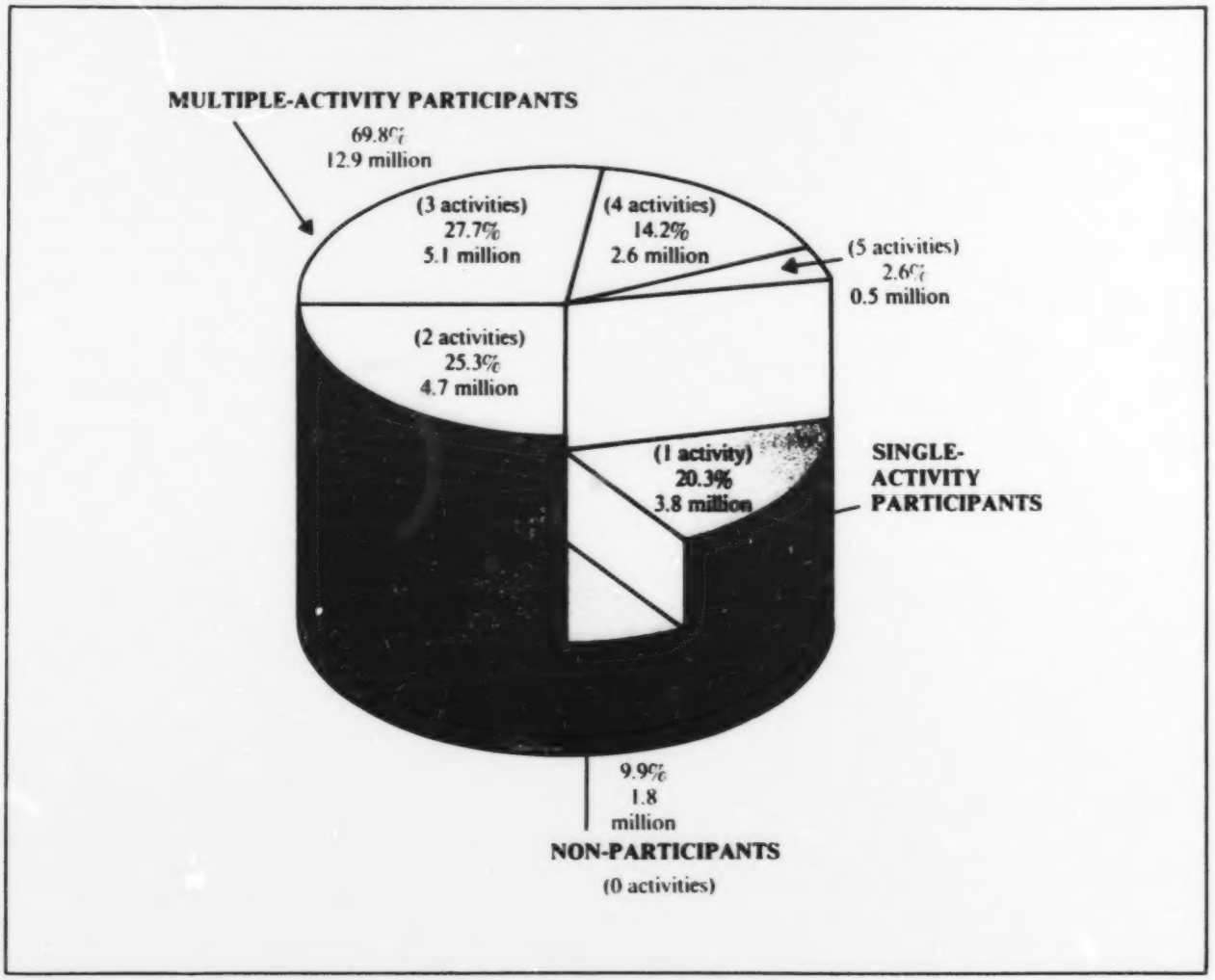


The figure shows, among other things, that of the 3.6 million Canadians who took special trips away from home to observe, photograph or feed wildlife nearly all of them (3.58 million) participated in additional activities, some of which were consumptive (hunting), non-consumptive (incidental, residential) and indirect in nature.

More than 90 percent of the Canadian population aged 15 years or older participated in one or more types of wildlife-related activities (Figure 2). A large majority (69.8 percent) engaged in two or more types of activities, and 45 percent took part in three or more.

Multiple-activity participants were younger and better educated than average. They included representative numbers of men and women, as well as rural and urban residents. On the other hand, non-participants and single-activity participants were slightly older than average and tended to include fewer men and fewer people with high levels of education. These trends generally apply to all 10 provinces, without notable exceptions.

Figure 2
Distribution of Canadians 15 years and older according to the number of different types of wildlife-related activity engaged in, Canada 1981 (*N* = 18.5 million).



Nearly 13 million Canadians (69.8 percent) pursue from two to five types of wildlife-related activities while fewer than 10 percent of the population does not participate in any such activities.

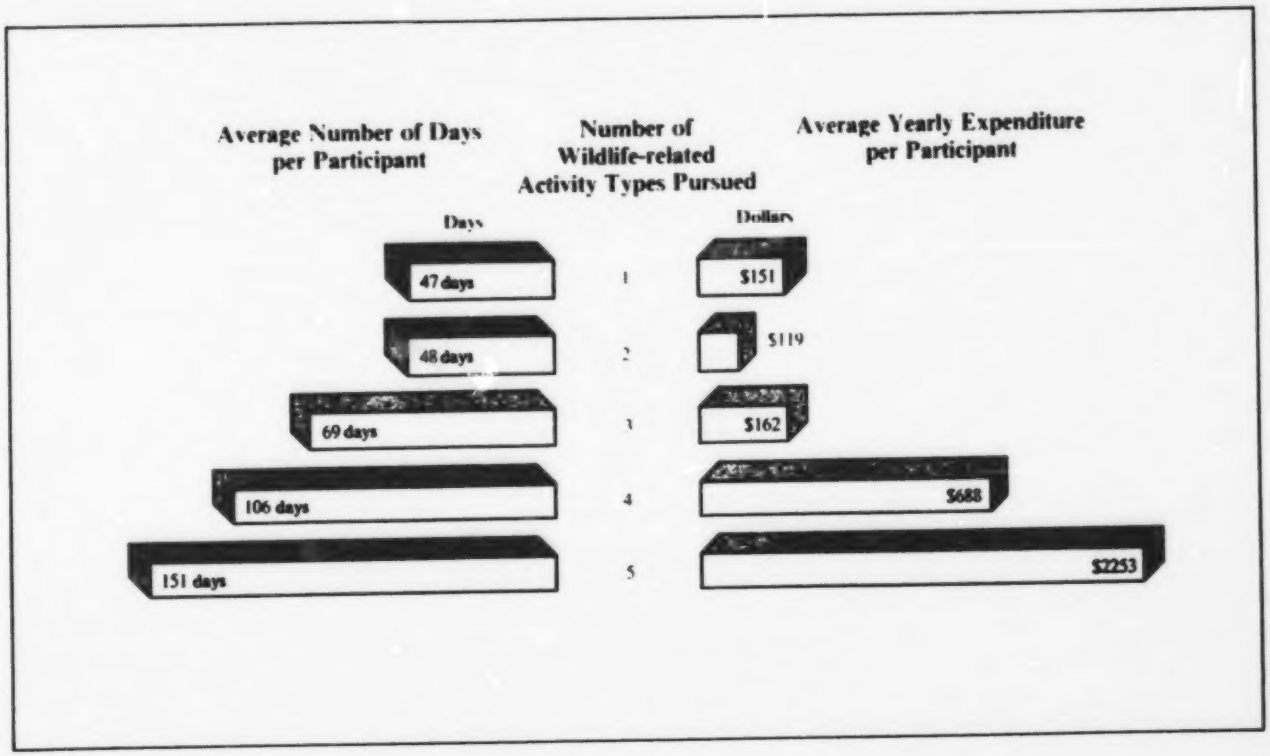
Observation two:

There is a direct relationship between the time and money committed to wildlife-related activities and the number of different types of activities that people participate in.

Figure 3 shows the average amount of time and money committed by participants in wildlife-related activities as the diversity of these activities increases. The average number of days spent by people who took part in four or five types of activity was more than twice that spent by people who took part in only one or two.

The average expenditure ranged from $151 for those who participated in a single type of activity to $2253 for those who took part in all five types.

Figure 3
Average number of days and dollars spent by Canadians according to the number of different types of wildlife-related activity they took part in, Canada 1981.



Canadian commitment towards wildlife-related activities, expressed in time and money spent, tends to increase dramatically per capita as the diversity of the activities pursued increases.

Observation three:

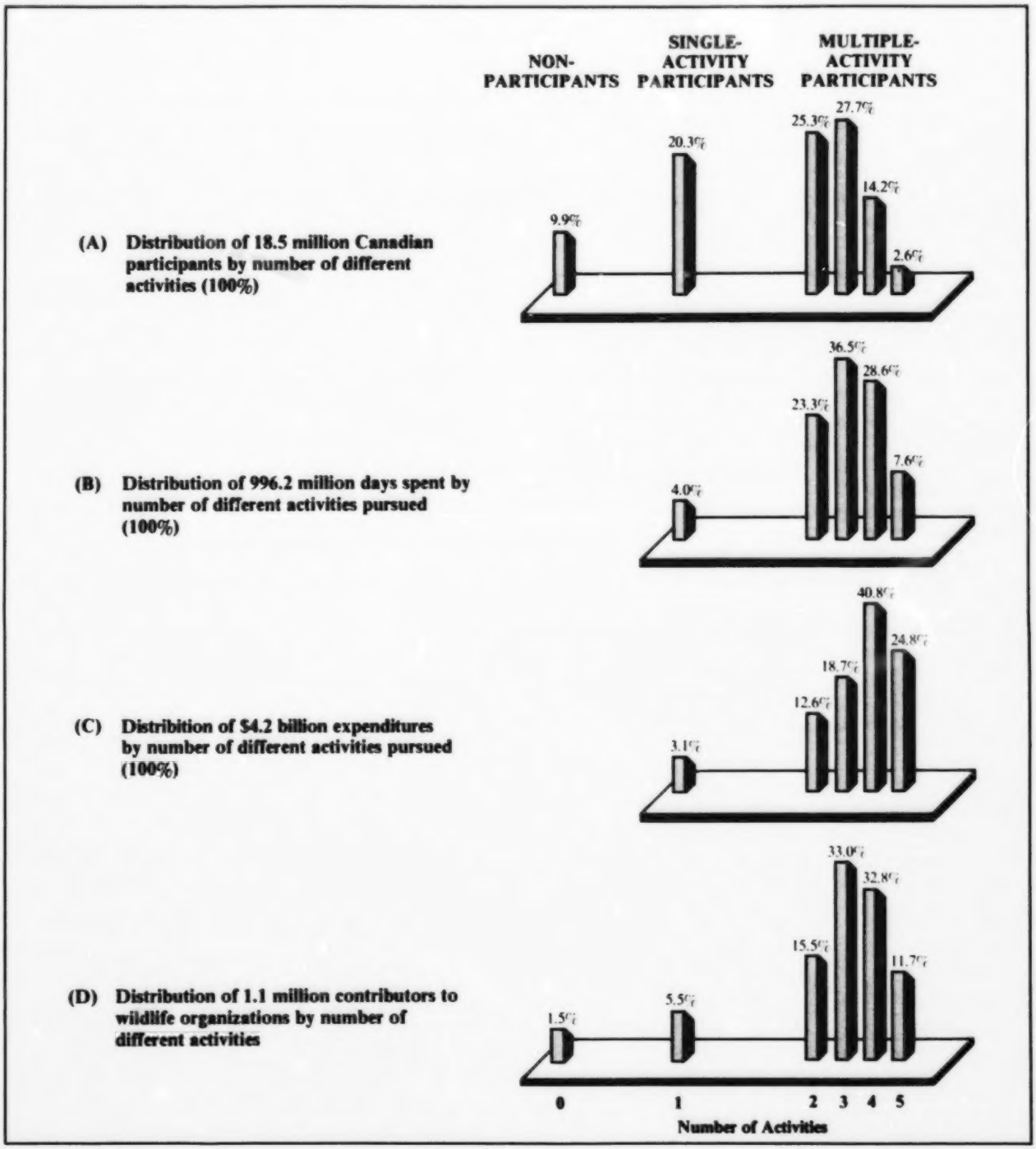
Although most Canadians incur some expenditures when they participate in a wildlife-related activity, a core group of multiple-activity participants accounted for 66 percent of the $4.2 billion spent on all wildlife-related activities in 1981.

Figure 4 shows the percentage distribution of participants, as well as of time and money spent on wildlife-related activities, according to the number of different types of activities pursued by Canadians in 1981. The data illustrate the relationship between the number of different wildlife-related activities in which people engage and the extent of their commitment to them.

For example, it can be seen in the second column that single-activity participants were 20.3 percent (A) of the adult population of Canada but accounted for only 4 percent of total days (B) and little more than 3 percent of the total money (C) spent in 1981. Canadians involved in two to five wildlife-related activities accounted for 96 percent of the time and 97 percent of the money spent on those activities as well as constituting 93 percent of the 1.1 million supporters of wildlife organizations. Most significant were the 17 percent of adult Canadians who participated in four or five wildlife-related activities. This core group was responsible for nearly 40 percent of the 996.2 million days and 66 percent of the $4.2 billion spent on wildlife activities.

Figure 4

Distribution of participants and other selected variables, according to the number of different types of wildlife-related activity pursued, Canada 1981.



A small core of multiple-activity participants (14.2 percent) who pursued 4 different types of wildlife-related activities during the year (A), accounted for 28.6 percent of all the time(B) and 40.8 percent of all the money (C) spent on wildlife-related activities.

Observation four:

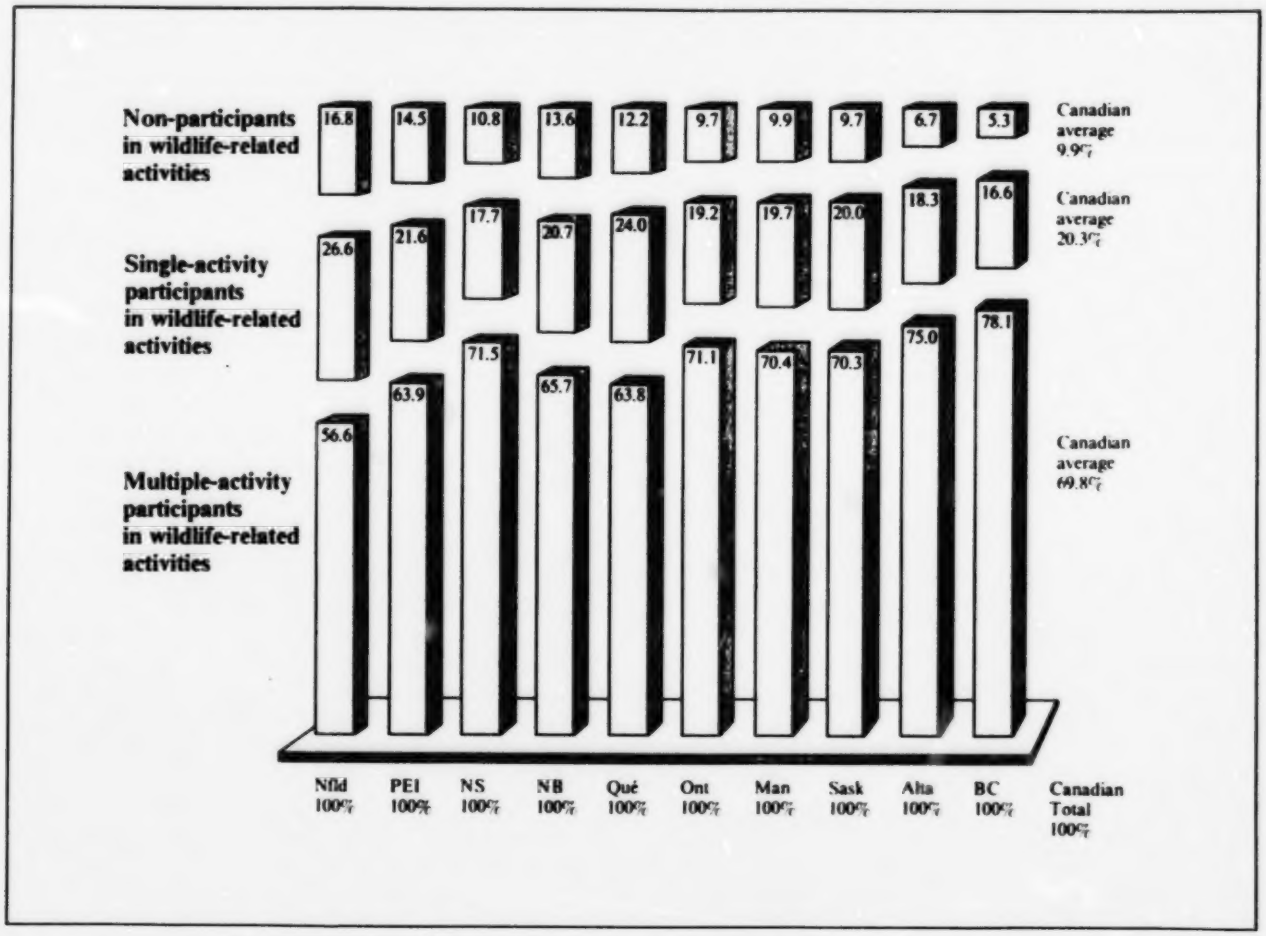
Canadians in the western provinces are more likely to engage in multiple-activity participation than those in Eastern Canada.

Figure 5 shows that single-activity and multiple-activity participants and non-participation in wildlife-related activities varied from province to province in 1981.

Non-participation was above average in all provinces east of Ontario; the rate varied from 10.8 percent in Nova Scotia to 16.8 percent in Newfoundland. Alberta and British Columbia had the lowest rates of non-participation, with 6.7 percent and 5.3 percent respectively.

The provinces east of Ontario, except Nova Scotia, showed a rate of single-activity participation slightly above the national average of 20.3 percent. In contrast, provinces west of Quebec had above-average rates of multiple-activity participation, ranging from 70.3 percent in Saskatchewan to 78.1 percent in British Columbia.

Figure 5
Distribution of wildlife-related single-activity participants, multiple-activity participants and non-participants by province, 1981 (*N* = 18.5 million).



Canadians in the western half of the country have an above-average propensity to to participate in several types of wildlife-related activities during the year whereas in the eastern half they are typified by higher than average involvement in a single wildlife activity.

Observation five:

Virtually every Canadian who hunts also takes part in non-consumptive wildlife-related activities.

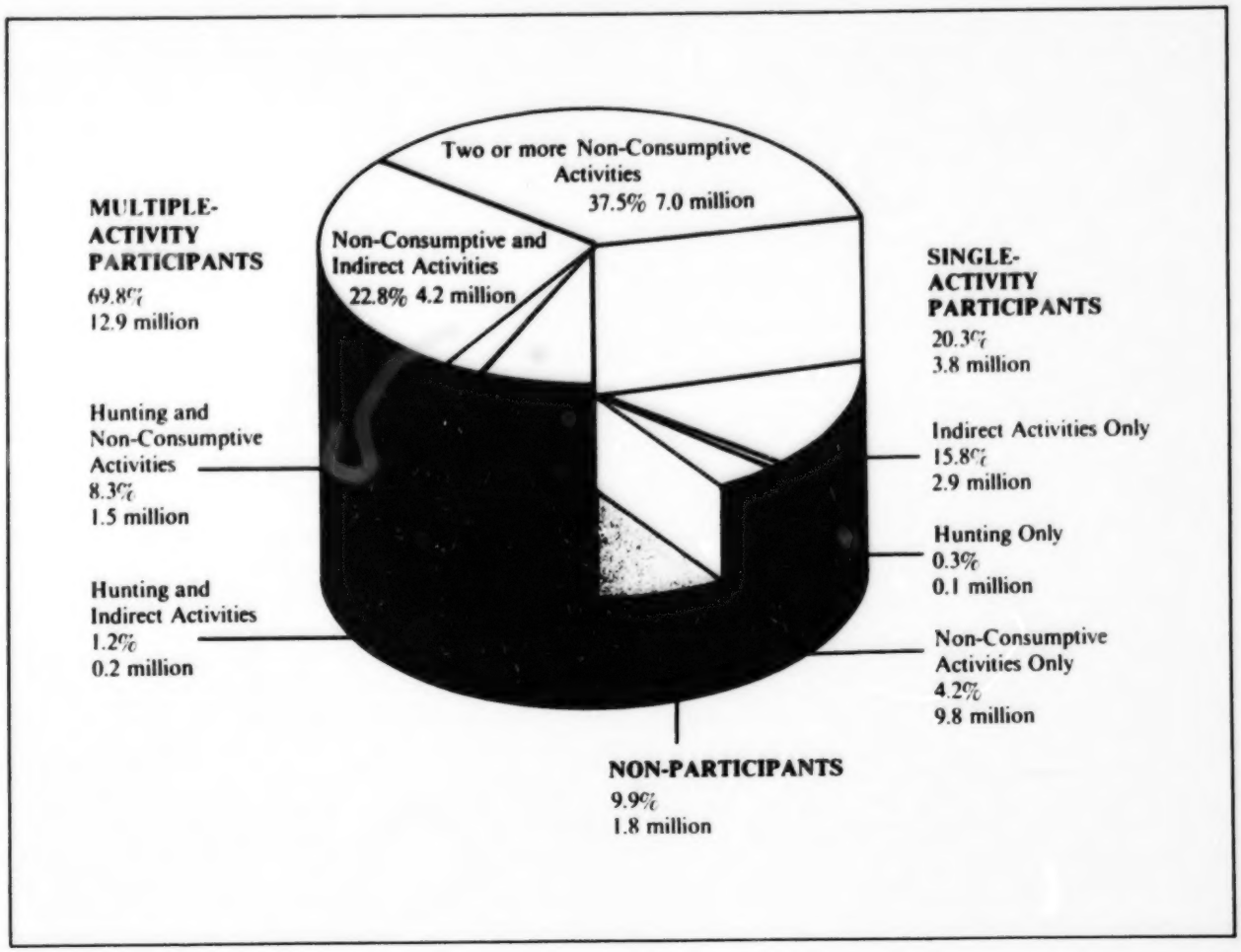
Wildlife activities may be classified according to the kind of contact occurring between participants and wildlife. Hunting generally takes participants into woods, fields, marshes or other natural areas where wildlife may be seen and harvested. Non-consumptive activities such as watching deer or putting out feed in winter to attract animals may take place in a natural area such as woods or parks, but always involve an attempt to actually see wildlife. Indirect activities such as reading books on wildlife, watching a nature program on television or visiting a museum involve an appreciation of wildlife that does not necessarily entail an actual encounter with a live animal. Figure 6 shows the specific combinations of activities in which people engage.

Most single-activity participants engaged in indirect activities in a developed environment, such as a home, auditorium, museum or zoo.

Multiple-activity participation tends to bring people into direct contact with wildlife outdoors. Most multiple-activity participants took part in non-consumptive activities exclusively, such as observing, feeding and photographing wildlife on trips or around the home.

Most hunters were also active in non-consumptive activities that brought them into direct contact with wildlife.

Figure 6
Distribution of wildlife participants and non-participants 15 years and older within single- and multiple-activity participation types, Canada 1981 (*N* = 18.5 million).



The figure shows, among other things, that over half of Canadians who engage in multiple-activity participation pursue two or more non-consumptive activities, such as special trips to observe, feed or photograph wildlife.

Observation six:

Canadians who participate in both hunting and non-consumptive activities accounted for almost half of the $4.2 billion spent on wildlife-related activities in 1981 (Figures 7 and 8).

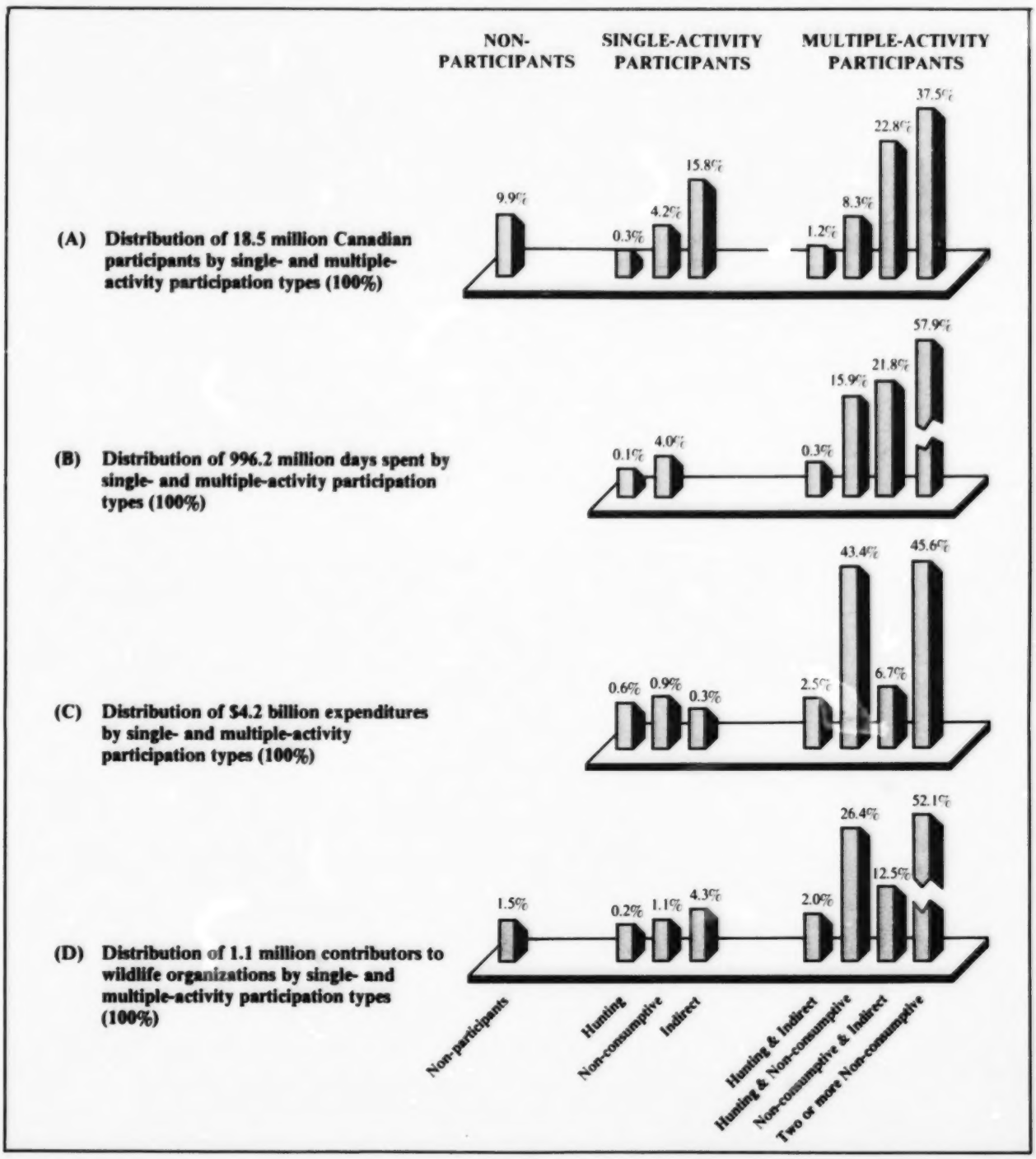
Figure 7 shows the distribution of participants in one or more activities, as well as the time and money spent on those activities.

People with several interests in wildlife accounted for the vast majority of time and money spent on wildlife-related activities in 1981. Most significant are the 9.5 percent of Canadians who engaged in hunting plus other activities. These hunters spent more than 16 percent of all days and more than 45 percent of all dollars. They spent nearly as much money on non-consumptive activities as they did on hunting. This core group also formed 28 percent of the members of and contributors to wildlife organizations. Hunters with additional wildlife interests accounted for about 30 percent of all days in Newfoundland, New Brunswick and Saskatchewan. In Newfoundland, Nova Scotia, New Brunswick, Manitoba and Saskatchewan, they accounted for between 60 and 80 percent of all expenditures on activities. In those five provinces and in Quebec these hunters formed between 35 and 50 percent of members of and contributors to wildlife organizations.

The 60 percent of adult Canadians who engaged in several wildlife activities without hunting accounted for 80 percent of all days and 52 percent of all expenditures on wildlife activities. These non-consumptive users also formed more than 64 percent of all members of and contributors to wildlife organizations.

Figure 7

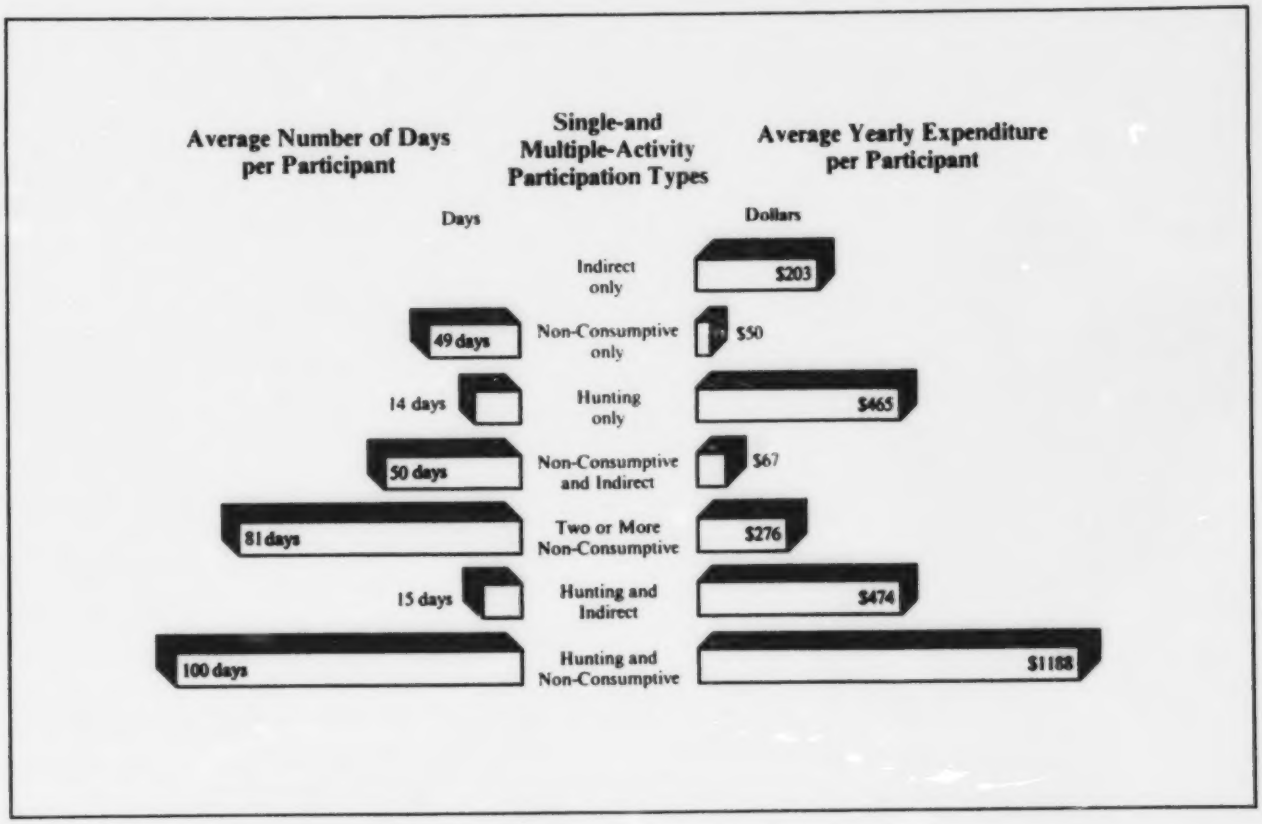
Distribution of wildlife participants and non-participants and other selected variables within single- and multiple-activity participation types, Canada 1981.



A small core (9.5 percent) of Canadians who pursued both hunting and non-consumptive wildlife activities during the year spent almost half (45.9 percent) of the money expended on wildlife activities in 1981.

Figure 8 shows average time and money spent per capita. Among people who limited themselves to a single activity, hunters spent significantly more money than participants in non-consumptive and indirect wildlife activities, whereas participants in non-consumptive activities spent more time than hunters on wildlife-related activities. Among those who took part in several activities, hunters spent more per capita than other groups of participants. This is especially true of those who took part in both hunting and non-consumptive activities during 1981; they had the highest mean expenditure ($1188) and average number of days (100) spent.

Figure 8
Average number of days and dollars spent by wildlife participants within single-and multiple-activity participation types, Canada 1981.



The figure shows, among other things, that hunters consistently spend more money on average than participants in non-consumptive activities.

Observation seven:

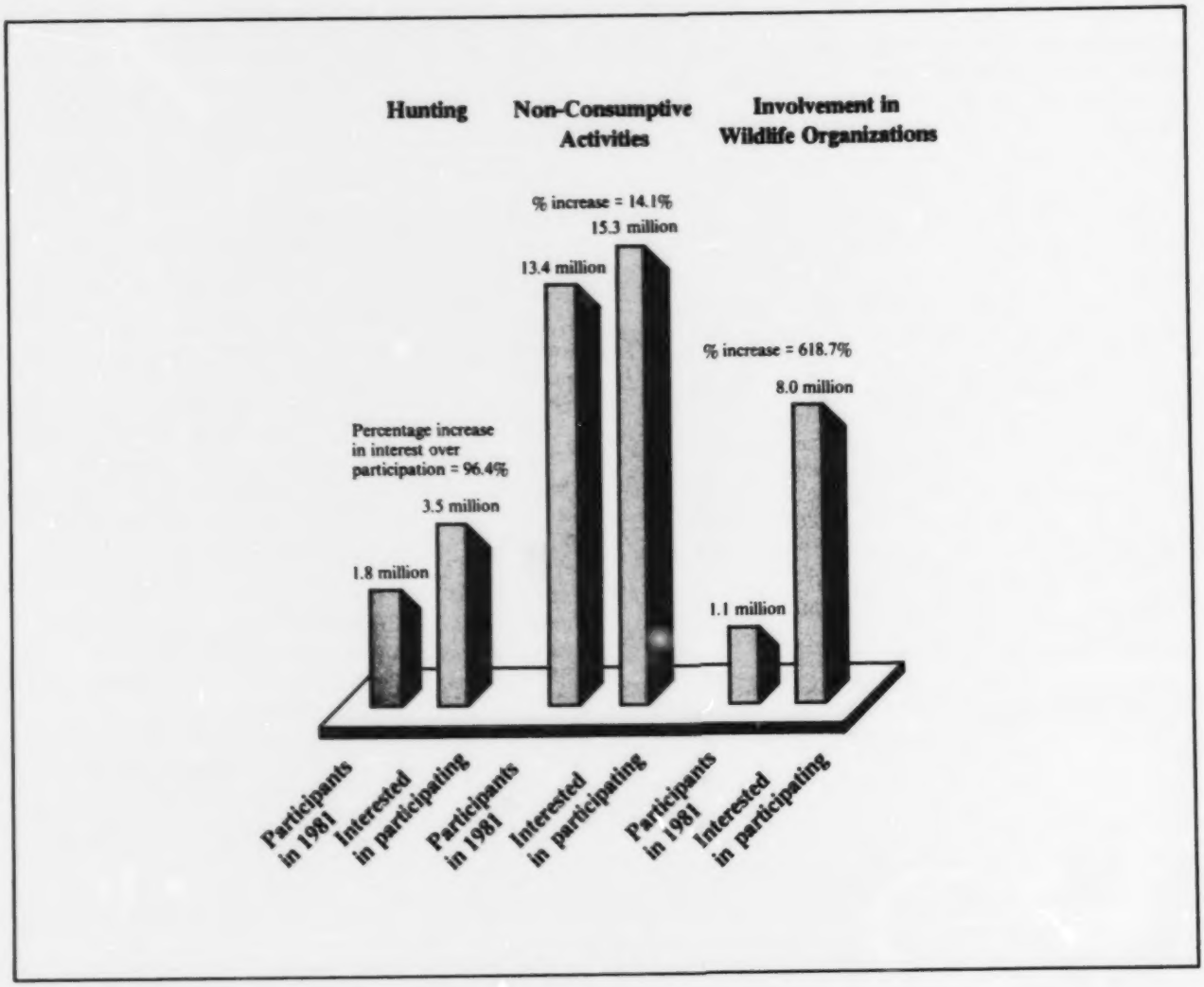
Significantly more people are interested in hunting and in belonging or contributing to wildlife organizations than actually take part in these activities.

Figure 9 shows the difference in numbers between those who would like to take part in wildlife-related activities and those who actually do. The high levels of interest suggest a latent demand for wildlife that could be realized, given appropriate management or marketing strategies.

Interest in sponsoring wildlife organizations was 619 percent greater than actual levels of sponsorship — a difference of 6.9 million people. This difference between interest in sponsorship and actual support was particularly noticeable among women, people under age 25, urban residents and those with secondary schooling.

Interest in hunting was 96 percent greater than current participation — a difference of 1.7 million people. This difference was most apparent among urban residents and women. Most people who were interested in non-consumptive activities already participated in them.

Figure 9
Difference between actual number of participants and those interested in participating in selected wildlife-related activities, Canada 1981.



The growth potential for involvement in wildlife organizations could conceivably be more than five times the current sponsorship.

Observation eight:

Although western provinces show higher levels of interest in wildlife organizations, the potential for increases in memberships or contributions is greater in Eastern Canada.

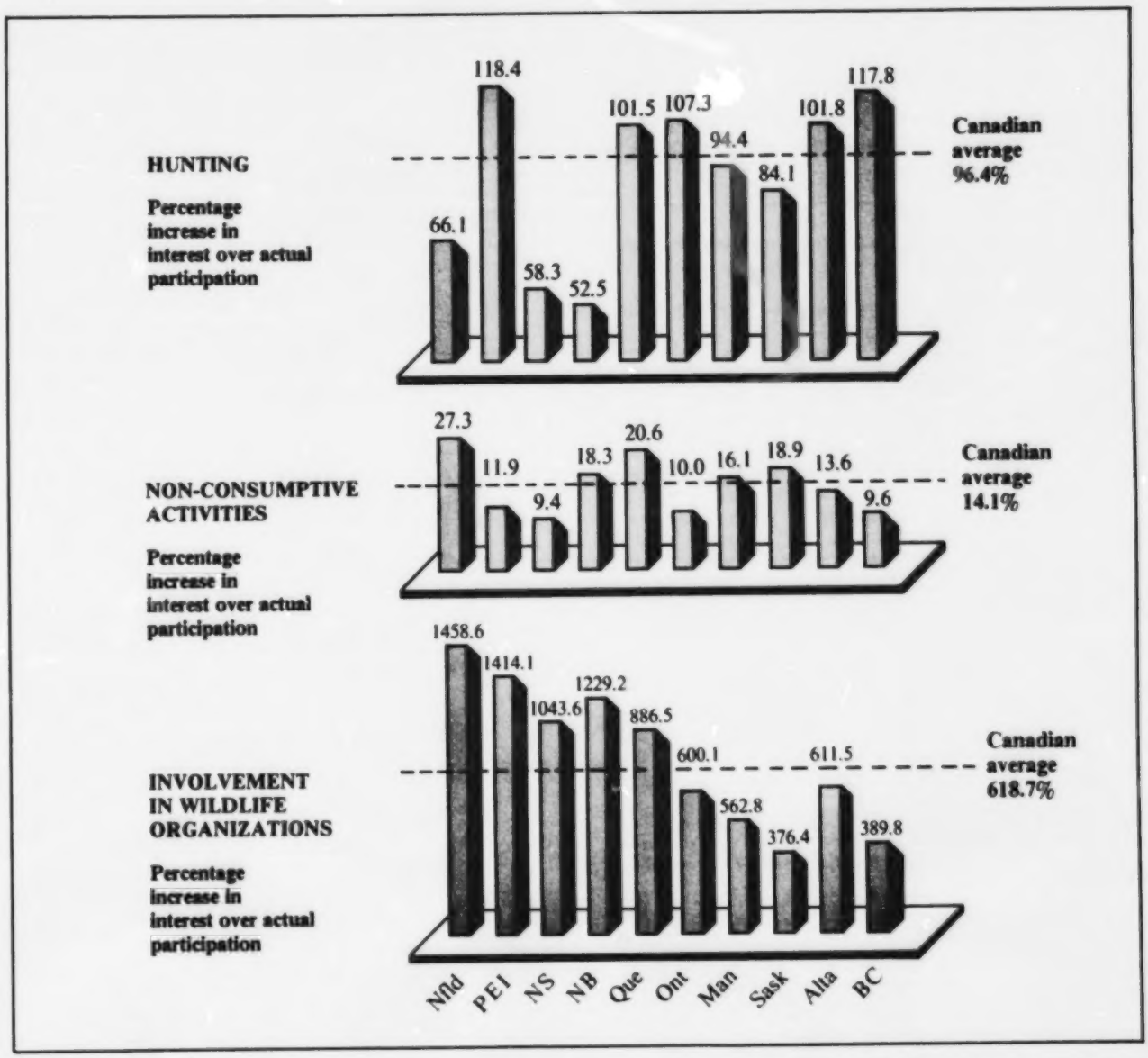
It has been shown that participation in hunting exceeded the national average of 9.8 percent in six provinces — Newfoundland, Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta.[10] Consequently, the absolute interest expressed in hunting was highest in these provinces. However, by expressing the difference between actual participation and declared interest as a proportion of current participation rates, as is done in Figure 9, we can determine the provinces that show the greatest potential for increase in an activity. Figure 10 reveals that across Canada interest in hunting is 96.4 percent above actual participation. This potential is highest in British Columbia (117.8 percent) and Prince Edward Island (118.4 percent) and it is also higher than the national average in Ontario, Alberta and Quebec.

Earlier data showed that involvement in non-consumptive activities was higher in Western than in Eastern Canada. Consequently, above-average levels of interest in non-consumptive activities were found in Manitoba, Saskatchewan, Alberta and British Columbia. However, Figure 10, which shows the percentage difference between declared interest and actual participation in non-consumptive activities, reveals a different picture. Potential increases in the demand for non-consumptive activities are seen to be above the national average for Newfoundland, New Brunswick, Quebec, Manitoba and Saskatchewan. Potential non-consumptive demand in Newfoundland appears to be nearly twice as high as the national average.

Although interest in belonging or contributing to a wildlife organization was highest in Manitoba, Saskatchewan, Alberta and British Columbia, Figure 10 shows that the greatest potential gains in membership are likely to be made among the provinces of Eastern Canada, with Newfoundland and Prince Edward Island leading the way. More specifically, memberships might be increased from 10 200 to 159 200 in Newfoundland, from 2300 to 35 100 in Prince Edward Island, from 23 200 to 265 400 in Nova Scotia, from 15 000 to 199 200 in New Brunswick, from 188 900 to 1 864 000 in Quebec, from 408 400 to 2 859 000 in Ontario, from 52 400 to 347 600 in Manitoba, from 72 200 to 344 000 in Saskatchewan, from 119 500 to 850 600 in Alberta and from 223 500 to 1 094 700 in British Columbia.

[10] *Filion et al. 1983. Highlights of the 1981 national survey, Page 15.*

Figure 10
Difference between actual number of participants and those interested in participating in selected wildlife-related activities by province in 1981 (*N* = 18.5 million).



The figure shows, among other things, that interest expressed by Canadians in joining or contributing to wildlife organizations exceeds participation in all provinces but that the difference between declared interest and actual participation far exceeds the national average in the eastern half of the country.

Observation nine:

By the year 2001, expected growth and aging of the Canadian population will influence participation in wildlife-related activities.

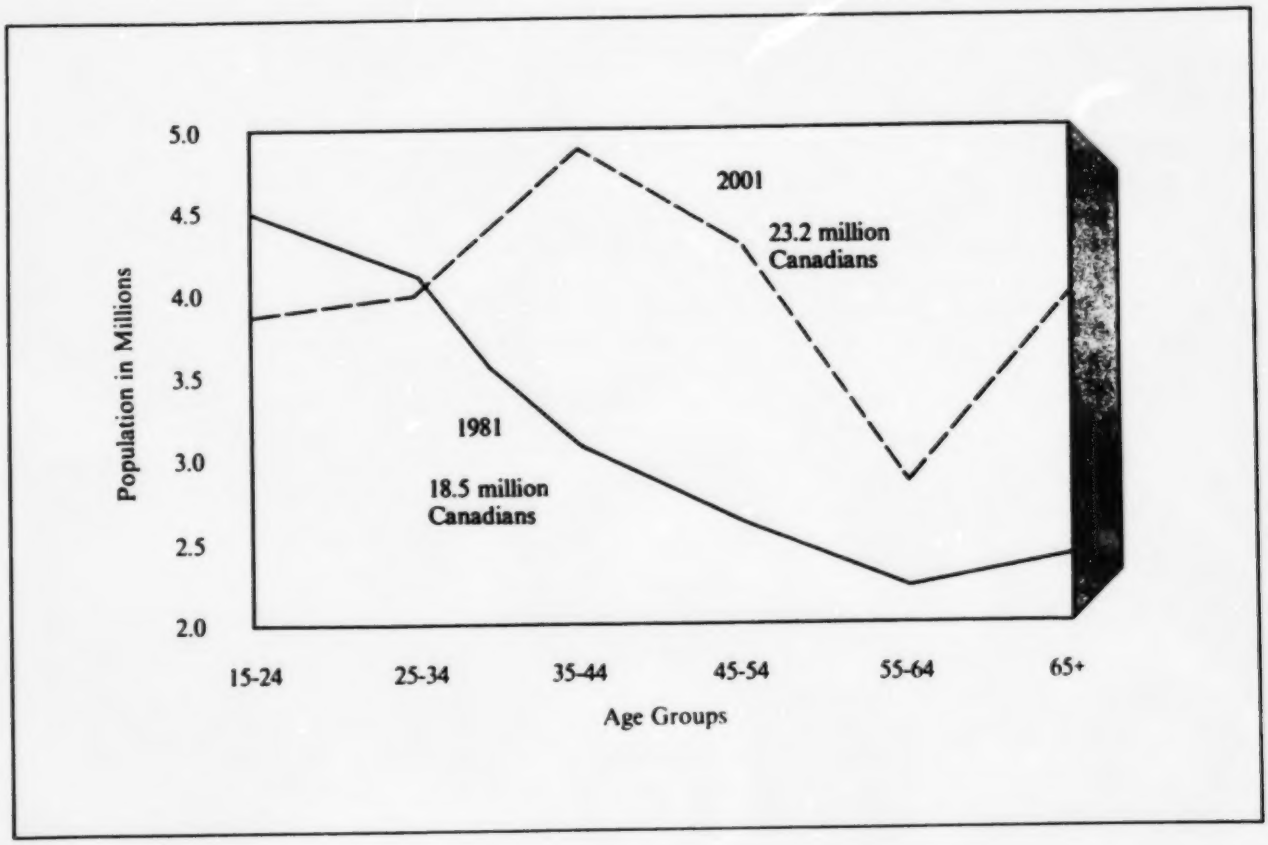
Figure 11 depicts expected demographic changes in the Canadian population over 20 years.

Statistics Canada forecasts a 25 percent increase in the population aged 15 or more, from 18.5 million in 1981 to about 23.2 million in 2001.[11] The core labour force population (those aged 25 to 64) is expected to increase from 11.7 million to about 15.6 million. By 2001, the median age of the entire population is expected to be 39, compared with 30 in 1981.

More than 4 million Canadians will be over age 65 by 2001, compared with 2.3 million in 1981. The population aged 15-24 will drop from 4.5 million to about 3.7 million by 2001. In 1981 those 15-24 formed the largest age group; in 2001 the largest group will be those 35-44.

[11]Information on population estimates and characteristics in 2001 was obtained from projection 1 in George, M.V.; Perreault, J. 1985. Population projections for Canada, provinces and territories 1984-2006. Statistics Canada, Ottawa.

Figure 11
Distribution of the population of Canada aged 15 or older, 1981 and 2001.



The Canadian population will increase by about 25 percent or 5 million people by the year 2001, mostly among older age groups.

Observation ten:

Although the absolute number of participants in all types of wildlife-related activities is expected to increase by the year 2001, the proportion of the population that actually takes part in hunting is likely to decline.

Figure 12 compares projected estimates of involvement in hunting, non-consumptive activities and wildlife organizations in 2001 with the reported participation figures for 1981. As comprehensive information on trends in all types of wildlife-related activity is not at present available, multivariate regression models cannot be used to derive projections. Instead, estimates of changes in the absolute number of participants in each category of wildlife-related activities were calculated by applying 1981 rates of participation by age group to conservative Statistics Canada projections of the Canadian population for 2001. This method assumes that a shift in Canada's age composition will be the most significant sociodemographic change influencing participation over the 20 years, that availability and accessibility of wildlife and habitat will be maintained and that current rates of recruitment and participation by age group will continue. If any of these conditions were to change, the estimates would have to be adjusted accordingly.

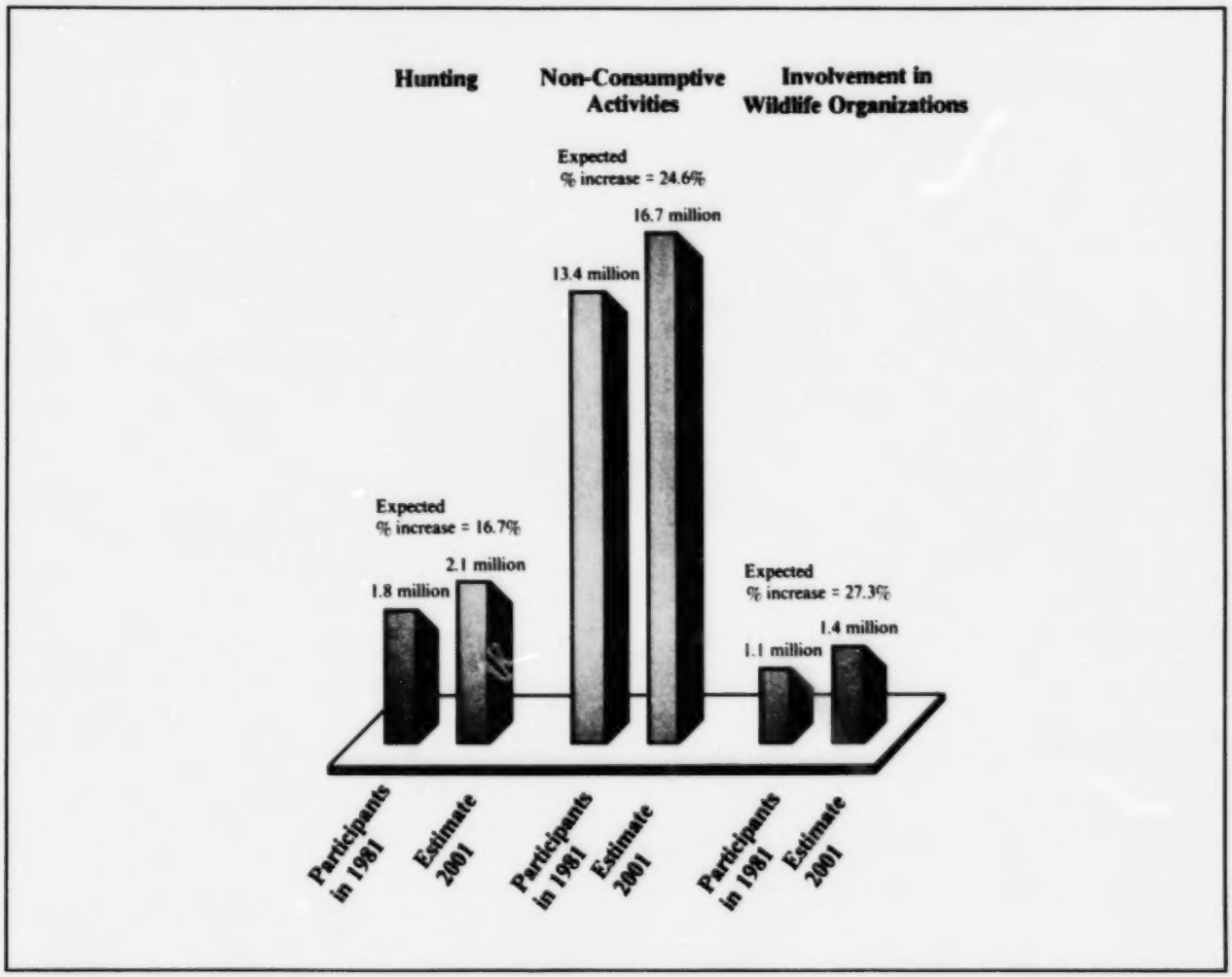
Overall population growth will affect the absolute number of participants in wildlife-related activities by 2001. According to the estimate the absolute number of hunters is expected to increase by 300 000 to 2.1 million in 2001, 16.7 percent more than in 1981. Nonetheless, the proportion of the total Canadian population engaged in hunting is expected to decline somewhat by 2001 because of changes in the age structure of Canadian society.

The absolute number of participants in non-consumptive activities is expected to rise by 3.3 million to 16.7 million participants in 2001, a 24.6 percent increase over 1981. Members of and contributors to wildlife organizations are expected to increase by 300 000 to 1.4 million in 2001, a 27.3 percent increase. Both of these categories are expected to keep pace with population growth because of the age patterns of the people involved in them.

Although most of the provinces showed similar trends, the absolute numbers of hunters and of non-consumptive users in Quebec are expected to increase by about 10 percent, less than the Canadian average.

National and provincial trends in wildlife-related activities could both be affected significantly by government or private-sector efforts to promote them. Unexpected shifts in attitudes toward wildlife might move involvement in either direction.

Figure 12
Estimated rates of participation in selected wildlife activities, Canada 2001.



Based on its relationship with age, participation in non-consumptive wildlife-related activities and involvement in wildlife organizations is expected to keep pace with or exceed the rate of increase in the Canadian population between now and 2001 whereas hunting is not.

Conclusions and Implications for Environmental Management

- Wildlife is an important recreational and economic asset to Canada. It provides substantial benefits not only to the people who personally enjoy the resource, but also to the Canadian economy as a whole. Because of the nature of wildlife-related activities, many of these benefits are felt outside major urban centres and in regions where providing economic stimulus may be at once most difficult and most necessary.

- Although the benefits have been quantified only for 1981, sustained wildlife management should be capable of producing equal or greater benefits in perpetuity. Significant economic benefits would be at risk if present wildlife population levels and habitats, and current wildlife conservation efforts across the country, were to decline.

- The immense popularity of wildlife-related recreational activities among Canadians and the significant economic values associated with them establishes that federal and provincial government and non-government wildlife management organizations are accountable to a complex, diverse, nationwide constituency.

- Individual levels of commitment to the several kinds of wildlife-related activity are reflected in high expenditures of time and money. Management programs that encouraged participation in diverse wildlife-related recreational activities would probably result in even higher levels of public commitment.

- The difference between current participation and declared interest in wildlife organizations implies a significant, untapped source of support for wildlife conservation. For example, non-government organizations wanting to increase membership and broaden their sources of revenue could orient their marketing toward publics that are less than 25 years old, have secondary schooling, are female and live in towns and cities. The highest gains could be made in Eastern Canada.

- The current demand for wildlife-related activities, the willingness of participants to spend more money on them and the significant, untapped market provide an encouraging opportunity for wildlife managers to seek ways in which participants can contribute toward the cost of maintaining abundant wildlife populations.

- Many entrepreneurs owe a part of their success to Pareto's 20/80 principle, which incites them to focus on the core (20 percent) client group that accounts for most (80 percent) of their market. A similar approach may be fruitful for wildlife managers. The fact that 17 percent of Canadians accounted for 66 percent of the $4.2 billion spent on all wildlife-related activities in 1981 shows that a core of participants is highly committed to wildlife and its benefits. This group represents a promising source of public and economic support for wildlife conservation that is considerably larger than the traditional hunter constituency.

- The temptation to partition wildlife beneficiaries into "consumptive" and "non-consumptive" categories masks the fact that a large majority of users is in both categories. Four out of five hunters would probably welcome an expansion of wildlife management programs to meet their broader non-consumptive interests; hunters actually spend nearly as much money on non-consumptive wildlife-related activities as on hunting. Wildlife management agencies thus have a strong incentive to expand their programs beyond traditional concerns with hunting. Of course, non-consumptive use programs, supported by new funding sources, would also benefit a considerably larger group of wildlife users who do not hunt. Westerners are likely to be most receptive to management for multiple-activity participation.

- The growth of the Canadian population is one of the most significant factors that will affect demand for wildlife-related activities. From 1981 to 2001, Canada's population aged 15 or more will have

increased by a quarter. This is expected to increase the total number of participants in every wildlife-related activity. Growth in demand will likely impose new requirements on present wildlife management programs. For example, more control of access to resources may be needed to alleviate crowding, user conflicts and stress on wildlife populations and habitat.

- Canada's population will have aged appreciably by 2001. Hunting will likely attract a lower proportion of the total population than at present, because hunters tend to be from younger age groups. Some non-consumptive activities may attract a growing proportion of the total population because of their compatibility with the lifestyle of an older population. Persons with a high level of commitment to wildlife-related activities are likely to maintain this interest into retirement. Public concern for fitness, coupled with advances in health care, may also contribute to interest in some outdoor activities. Shifts in the demand for wildlife-related activities will need to be reflected in management programs. Given the high levels of interest in wildlife-related activities, higher levels of participation can be achieved by 2001. This will require that productive habitats be enhanced, public access to wildlife be ensured and management policies encourage participation.